

IN THE CLAIMS:

Please amend the claims in the above-identified patent application as follows:

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- 1 1. (**Amended**) A method of performing network packet filtering, said
2 method comprising:
3 dividing a set of rules along N dimensions;
4 dividing each of said N dimensions into rule ranges using said set of rules;
5 generating a set of possible rules for each rule range in each of said N dimensions;
6 searching said rule ranges along said N dimensions in parallel to select N sets of
7 possible rules along said N dimensions;
8 logically combining said N sets of possible rules to generate a final set of rules;
9 applying said final set of rules;
10 repeating said steps of searching, logically combining, and applying for each
11 packet to filter;
12 repeating said steps of dividing said set of rules along N dimensions, dividing
13 each of said N dimensions into rule ranges using said set of rules, and
14 generating a set of possible rules for each rule range in each of said N
15 dimensions when a new rule not specifying a new dimension is added to said
16 set of rules; and

17 repeating said steps of dividing each of said N dimensions into rule ranges using
18 said set of rules, and generating a set of possible rules for each rule range in
19 each of said N dimensions when a new rule specifying a new dimension is
20 added to said set of rules .

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1 2. **(Amended)** The method as claimed in claim 1 wherein generating a set
2 of possible rules for each rule range in each of said N dimensions comprises generating a
3 rule bit vector for each rule range along each of said N dimensions.

1 3. **(Amended)** The method as claimed in claim 1 further
2 comprising:
3 generating a search structure for each of said N dimensions to locate a specific
4 rule range.

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1 6. **(Amended)** The method as claimed in claim 1 wherein applying said
2 final set of rules comprises selecting a highest priority rule in said final set of rules.

1 7. **(Amended)** The method as claimed in claim 1 wherein applying said
2 final set of rules comprises applying more than one rule in said final set of rules.

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- 1 10. (Amended) The method as claimed in claim 9 wherein applying
2 said final set of rules comprises selecting a highest priority rule in said final set of rules.

Please delete claims 11 to 27. Please add the following claims

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- 1 28. (Added) The method as claimed in claim 19 wherein each rule range
2 comprises a range identifier.

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- 1 29. (Added) The method as claimed in claim 28 wherein said range
2 identifier comprises a rule bit vector that specifies a set of rules that may apply to
3 incoming data units that fall within the associated rule range.

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- 1 30. (Added) The method as claimed in claim 29 wherein said rule bit
2 vectors are logically ANDed together by a rule processor to produce a final bit vector of
3 rules that apply.

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- 1 31. (Added) The method as claimed in claim 28 wherein said range
2 identifier comprises an index value.

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1 32. **(Added)** The method as claimed in claim 31 wherein said index
2 values are used by a rule processor to index into a N dimensional look-up table for a final
3 rule.
